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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/726,363

12/02/2003

Brian A. Leete

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05/04/2006

BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025-1030

EXAMINER

LEE, CHUN KUAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/726,363	LEETE ET AL.	
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7-11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

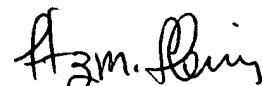
**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**Supervisory**  
**FRITZ FLEMING**  
**PRIMARY EXAMINER** 5/1/06  
**GROUP 2100**  
**AU 2181**

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/01/2006 has been entered.
2. Applicant's arguments with respect to claims 1-4, 7-11 and 14 have been considered but are moot in view of the new ground(s) of rejection. Claims 5-6 and 12-13 are cancelled and claims 1-4, 7-11 and 14 are currently pending for examination.

### ***Claim Objections***

3. Claim 7 is objected to because of the following informalities: as claim 6 has been canceled, it appears that claim 7 should be dependent on claim 1, similar to the amendment made to the amended claim 14. Examiner assumes that claim 7 is dependent on independent claim 1. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, 7-11 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 3-4 and 11-12 recite the broad recitation "transaction descriptors", and the claim also recites "split-isochronous transaction descriptors" which is the narrower statement of the range/limitation.

6. As per claims 1, 7-8 and 14, applicant recited the limitation that the host controller is a "universal serial bus (USB) host controller" and "USB 2.0 host controller," wherein it is well known to one skilled in the art that split-isochronous transaction descriptors are supported by USB 2.0 standard and not supported by the USB 1.1 standard, and in accordance with the specification of the USB 2.0 host controller, queue heads do not directly coupled to frame list during initialization before coupling any split-isochronous transaction descriptors to the queue heads (EHCI specification, Fig. 3-1 on page 29), therefore it is unclear how the claimed host controller is a "universal serial bus (USB) host controller" and "USB 2.0 host controller." Examiner will assume any type of host controller for current examination.

7. As per claim 1 and 8, it appears unclear as to what is implementing the coupling of the queue heads to the frame list and the split-isochronous transaction descriptors to the queue heads and what supports the split-isochronous transaction descriptors. Further more, it appears that the independent claims 1 and 8 are correlated to a temporal sequence of events, examiner suggests that modifications should be made to the independent claims 1 and 8 to reflect more clearly said temporal sequence and further suggests presenting the independent claims 1 and 8 in the form of a method/process claim, providing active and positive steps for the implementation.

8. As per claims 3-4 and 10-11, applicant stated that "the plurality of queue heads are coupled to the frame list before any transaction descriptor" while in the independent claims 1 and 8, applicant stated that "the plurality of queue heads are directly coupled to the frame list before coupling any split-isochronous transaction descriptor," wherein the "transaction descriptor" stated in the dependent claims 3-4 and 10-11 is broader than the "split-isochronous transaction descriptor" stated in the independent claims 1 and 8.

9. Dependent claims 2-4 and 9-11 are rejected due to direct dependency on independent claims 1 and 8 respectively and the rejection under set forth above.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Wooten (US Patent 6,061,687).

11. As per claims 1 and 7, Wooten teaches an apparatus comprising:  
a host controller (Fig. 1 and 2, ref. 130) capable of coupling a plurality of queue heads (endpoint descriptor of Fig. 4A and Fig. 3, ref. 302a, 302b) to a frame list (process schedule comprising of endpoint descriptor list of Fig. 3) (col. 6, l. 31 to col. 7, l. 10),

wherein the plurality of queue heads are directly coupled to the frame list during initialization before coupling any split-isochronous transaction descriptors to the plurality

of queue heads where split isochronous transaction descriptors are supported (col. 6, l. 31 to col. 7, l. 10), as claims 1 and 7 do not require the support of split isochronous transaction descriptors and Wooten does not support split isochronous transaction descriptors, therefore the plurality of queue heads are not required to be directly coupled to the frame list during initialization before coupling any split-isochronous transaction descriptors to the plurality of queue heads,

however, Wooten does teach the plurality of queue heads (Fig. 3, ref. 302a, 302b) are directly coupled to the frame list during initialization (process schedule comprising endpoint descriptor list of Fig. 3), as prior to the process of any data by host controller, there must be an initialization process wherein the plurality of endpoint descriptors must be properly linked (connected) in lists to the process schedule in order to be processed by the host controller; and further more,

please note that the utilization of term "capable of" in claim 1 does not require for the host controller to implement the coupling, rather suggests a potential capability that the host controller can implement; and the recitation of the claimed limitation that "the plurality of queue heads are directly coupled to the frame list during initialization before coupling any split-isochronous transaction descriptors to the plurality of queue heads where split isochronous transaction descriptors are supported" after the term "wherein" is also a potential implementation by the host controller rather than a require implementation for claim 1.

12. As per claim 2, Wooten teaches the apparatus further including a host controller driver (Fig. 2, ref. 200).

13. As per claims 3 and 4, Wooten teaches the apparatus comprising wherein the plurality of queue heads are coupled to the frame list before any transaction descriptors (Fig. 3, ref 304a, 304b, 304c) during and after initialization of the host controller (Fig. 2-3 and col. 6, l. 31 to col. 7, l. 10), in view of the discussion regarding the initialization process set forth in rejection for claims 1 and 7, the endpoint descriptors must be properly linked to the process schedule in order for the host controller to process the them, therefore, during initialization and prior to be processed by the host controller (period after initialization), said link must be connected and remain connected respectively.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 8-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wooten (US Patent 6,061,687).

15. As per claims 8 and 14, Wooten teaches an system comprising:



a host controller (Fig. 1 and 2, ref. 130) capable of coupling a plurality of queue heads (endpoint descriptor of Fig. 4A and Fig. 3, ref. 302a, 302b) to a frame list (process schedule comprising of endpoint descriptor list of Fig. 3) (col. 6, l. 31 to col. 7, l. 10), and a device (printer 132 of Fig. 1) coupled to said host controller,

wherein the plurality of queue heads are directly coupled to the frame list during initialization before coupling any split-isochronous transaction descriptors to the plurality of queue heads where split isochronous transaction descriptors are supported (col. 6, l. 31 to col. 7, l. 10), wherein similar argument as stated above in the rejection for claims 1 and 7 is also applied in said rejection of claims 8 and 14.

Wooten does not expressly teaches the system comprising a plurality of host controllers comprising a first host controller and a second host controller.

It is well known to one skilled in the art the computer system conforming to the USB 1.1 standard can comprise of a plurality of host controller, wherein USB 1.1 standard does not support split-isochronous transaction descriptor.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made for Wooten's system to further comprising the plurality of host controller including a first host controller and a second host controller, wherein the first host controller is coupled to a device and the second host control is coupled to another device.

Therefore, it would have been obvious to Wooten's system to further comprising the plurality of host controllers for the benefit of increasing the number of computer peripheral devices that can be coupled to the computer system.

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16. As per claim <sup>9</sup>2, Wooten teaches the system further including the host controller driver (Fig. 2, ref. 200) is associated with said host controller (Fig. 2, ref. 130), therefore it would be obvious that a first host controller driver is associated with said first host controller and a second host controller is associated with said second host controller.

17. As per claims 10-11, Wooten teaches the system comprising wherein the plurality of queue heads are coupled to the frame list before any transaction descriptors (Fig. 3, ref 304a, 304b, 304c) during and after initialization of the host controller (Fig. 2-3 and col. 6, l. 31 to col. 7, l. 10), wherein similar argument as stated above in the rejections for claims 3-4 is also applied in said rejection of claims 10-11.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.K.L.  
04/21/2006

*Fritz M. Fleming*  
Supervisory  
FRITZ FLEMING  
PRIMARY EXAMINER 5/1/2006  
GROUP 2100  
Au 2181